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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/826,300	04/19/2004	Ji-hun Koo	Q80724	9833
23373	7590	09/28/2006	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			BUI, BRYAN	
			ART UNIT	PAPER NUMBER
			2863	

DATE MAILED: 09/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/826,300

Applicant(s)

KOO ET AL.

Examiner

Bryan Bui

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 August 2006.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☒ Claim(s) 1-14 and 16-20 is/are allowed.
6) ☒ Claim(s) 15 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____

1. Applicant's papers filed on 8/24/2006 have been received and entered. Claims 1-20 are pending in the application.
2. Applicant's remark has been considered, but it is not persuasive.

Applicant is reminded that during patent examination, the pending claims must be "given the broadest reasonable interpretation consistent with the specification."

Applicant always has the opportunity to amend the claims during prosecution, and broad interpretation by the examiner reduces the possibility that the claim, once issued, will be interpreted more broadly than is justified. In re Prater, 415 F.2d 1393, 1404-05, 162 USPQ 541, 550-51 (CCPA 1969).

While the meaning of claims of issued patents are interpreted in light of the specification, prosecution history, prior art and other claims, this is not the mode of claim interpretation to be applied during examination. During examination, the claims must be interpreted as broadly as their terms reasonable allowed. This means that the words of the claim must be given their plain meaning. In re Zletz, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989). Further, the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See In re Van Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

In this instant applicant argues that the prior art of record does not teach determining whether a sensor is not in operation.

Examiner respectfully disagree, the prior art clearly discloses whether or not the bias compensation is required for low frequency sensor signal currently being output from LPF (figure 18, operation of the bias control from window comparator of low

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frequency (from frequency cutoff) and differentiated). Since the determination whether the sensor is in operation or not is proportional to the output signal from the sensor and when the x count indicate movement of less than the minimum threshold amount, if so, the value of x-count (out put filtered signal from sensor) to zero. The status operation of the sensor can be considered as broad as reasonable allowed such mentioned above to motion or motionless of the pointing device sensor operated by user (figure 18, column 14, lines 6+).

Further, in the prior art submitted by Applicant (prior art related in the specification and figure 1, indicates a window comparator 12 operable to determine whether or not the differentiated signal is included within the a window, and estimating unit (11, 12, 13) operable to estimate bias included in the low frequency sensor signal output of the determining unit (function of LPF).

The present claim 15 of the current application is general extend some functional language (known in the art; for example: function of the low frequency signal output from output of the LPF) from the prior art. In the background of the invention (Description art related) show the tolerance range for tolerance level estimating is needed to improve in the current application. However, the current claim 15 does not show the improvement at all.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's prior art submitted in figure 1, and the background of the invention. hereinafter prior art.

With respect to claim 15, the prior art discloses the features of the claims invention in the apparatus and method of estimating and compensating for a bias in the sensor signal comprising: a low pass filter operable to filter the sensor signal and output a low frequency sensor signal (figure 1, LPF 10); an operation determination unit (comparator 12 in figure 1) operable to determine whether the sensor is not in operation; a bias estimating unit (figure 1, items 11, 12, 13) operable to estimate bias included in the low frequency sensor signal output from LPF according to the output of the determination unit; a subtractor (figure 1, item 14) to subtract the estimated bias from the low frequency sensor signal according to the output of the operation determination unit. Prior art teaches differentiating the low frequency sensor (figure 1, item 11); and determining that the sensor is not operating when an amplitude of the differentiated, low frequency sensor signal is a first value or {of} less, and an amplitude of the low frequency sensor signal is a second value or {of} less (figure 1, corresponding in the operation of items 10, 11, 12, 13). Noted that prior art does not directly point out a first

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value or {of} less or a second value or [of] less. However, it would have been obvious to one of ordinary skill in the art to realize that any sensor signal via LPF (low pass filter), the output should be low frequency signal (it is a basis theory), and the signal through differentiator should be output the differentiated signal, and the signal should include many parameters, such as amplitude, phase, etc. Thus, the output of differentiated amplitude of low frequency signal can be named as a first value or even call a second value (or any other name such primary value, etc), and the amplitude of signal output from LPF can be named as second value or even call a first value or any other name such as secondary value, etc. The output values from LPF or from differentiator *should be less than* the (original/main/source) input sensor signal (it is well-known).

5. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Case, Jr et al (US 5825350). Hereinafter Case.

With respect to claim 15, Case discloses the features of the claims invention in the apparatus and method of estimating and compensating for a bias in the sensor signal comprising: a low pass filter operable to filter the sensor signal and output a low frequency sensor signal (figure 18, LPF 1802); an operation determination unit (comparator 1808 in figure 18) operable to determine whether the sensor is not in operation; a bias estimating unit (figure 18, items 1806, 1808, 1810) operable to estimate bias included in the low frequency sensor signal output from LPF according to the output of the determination unit; a subtractor (figure 18, item 1804) to subtract the estimated bias from the low frequency sensor signal according to the output of the

operation determination unit. Case further teaches differentiating the low frequency sensor (figure 18, item 1806); and determining that the sensor is not operating when an amplitude of the differentiated, low frequency sensor signal is a *first value or {of} less*, and an amplitude of the low frequency sensor signal is a *second value or less* (figure 18, corresponding in the operation of items 1802, 1806, 1808, 1810). Noted that Case do not directly point out a first value or {of} less or a second value or [of] less. However, it would have been obvious to one of ordinary skill in the art to realize that any sensor signal via LPF (low pass filter), the output should be low frequency signal (it is a basis theory), and the signal through differentiator should be output the differentiated signal, and the signal should include many parameters, such as amplitude, phase, etc. Thus, the output of differentiated amplitude of low frequency signal can be named as a first value or even call a second value (or any other name such primary value, etc), and the amplitude of signal output from LPF can be named as second value or even call a first value or any other name such as secondary value, etc. The output values from LPF or from differentiator *should be less than* the (original/main/source) input sensor signal (it is well-known)

Allowable Subject Matter

6. Claims 1-14, and 16-20 are indicates allowable over the prior art of record as mentioned in the previous office action.

Response to Arguments

7. Please see section 2 as set forth above.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Bryan Bui whose telephone number is 571-272-2271. The examiner can normally be reached on M-Th from 7am-4pm, and Alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John E. Barlow can be reached on 571-272-2269. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

BB

9/26/2006

BRYAN BUI
PRIMARY EXAMINER

